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The following questions will be utilized to check for understanding of the basic electricity concepts included in Chapter 1 and 2 of the black 3 Ring Binders (White Pages). After constructing projects 1-4 the students will bring their project to the instructor for verification and a check on learning.

**PROJECT 1**

* What type of reaction is happening in the batteries? (CHEMICAL)
* The flow of electricity goes from what pole to what pole (Pos to Neg)
* What type of circuit do you have when the switch is off? (Open Circuit)
* What type of circuit do you have when the switch is on? (Closed Circuit)
* The chemical reaction in the battery is converted into \_\_\_\_\_\_\_\_\_\_\_ energy? (Electrical)
* The electrical energy in project one is converted into what two kinds of energy? (Heat and Light)

**PROJECT 2**

* In this project, electrical energy is changed into what type of energy? (MECHANICAL)
* What type of motor is used in the circuit? Give some examples. (DC. Drill, toothbrush, toy train)
* If you were to remove any of the #2 Snap circuits, would the fan still work? Why? (NO. It is an open circuit)
* What does DC stand for? (Direct Current)
* In this circuit, the motor is set up with the POS (+) pole in line with the POS (+) pole of the battery. This is known as reverse polarity. What is polarity? (The direction of the flow of electricity) What would happen to the direction of the fan if you changed the polarity? (Spin in opposite direction)

**PROJECT 3**

* In this project, electrical energy is changed into what type of energy? (SOUND)
* What is an IC? (INTEGRATED CIRCUIT)(P.4 Gold pages)
* What is the WC? (Whistle Chip) How is it switched/activated? (SOUND)

**PROJECT 4**

* In this project you changed the amount of current flowing to the speaker, what part in the circuit did this? (RESISTOR)
* Resistance is measured in what unit? (OHMs)

PROJECTS 5-12 will be completed at the students pace utilizing the handouts in the black binders. The students will complete this within **5 days of beginning**.

HMS

Electrical Engineering

8th Grade